



# **Distribution Resources Plan (DRP) and Integrated Distributed Energy Resource (IDER) Joint Workshop**



## **California Public Utilities Commission**

**November 9, 2015**

**Rulemaking R.14-08-013 (DRP) and R. 14-10-003 (IDER)**

**Assigned Commissioner: CPUC President Michael Picker (DRP) and Commissioner Michel Florio (IDER)**

**Administrative Law Judge: Julie Fitch (DRP) and Kelly Hymes (IDER)**

**Energy Division Staff Leads: J. David Erickson (DRP) and Katie Wu (IDER)**





# Safety and Emergency Information

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- We have four exits: Two in the rear and one on either side of the speakers.
- In the event that we do need to evacuate the building:
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- **(For the Side Exits)** - Go out of the exits and you will be on Golden Gate Avenue and proceed east pass Van Ness Avenue to Polk Street and turn south and continue to Civic Center Plaza.
- Our assembly point is Civic Center Plaza on McAllister Street and Polk Street [Dr. Carlton B. Goodlett Place].





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- Meeting number: 743 332 538
- Meeting password: !Energy1

DRP Website: <http://www.cpuc.ca.gov/PUC/energy/drpf>

All presentations will be posted on the DRP website





# Workshop Agenda

**9:00 am – 9:25** CPUC Introduction to Staff Proposal

- 9:30 – 10:55** Session 1 – “Phase 1” Q1-Q2 2016: Early Actions
- ICA, LNBA methodology and associated data access
  - Demonstration Projects A and B
  - Prepare for Demonstration Project Design Working Group
  - Joint Workshops with IDER: cost-effectiveness evaluation
  - Growth Scenarios & Process Alignment
  - Rulings R1-R4 (Please see handout for Ruling Descriptions)

- 11:00 – 12:30** Session 2 – “Phase 2” Q3-Q4 2016: Demonstration Projects Design
- Demonstration Project Design Working Group – collaborative design of demonstration projects and associated workshops (WDEMO on Gantt Chart)
  - Joint workshops with IDER to support sourcing in the Demonstration projects
  - Establishing criteria for approval of Demonstration Projects including sourcing mechanisms
  - Decision 1 (Please see handout for Decision descriptions)

**12:30 pm -1:30** Lunch

- 1:30- 2:25** Session 3 – “Phase 3-4” 2017 – 2018 and Beyond: Detailed design and early implementation of Demonstration Projects
- Data availability, access, resolution of security and privacy issues
  - Development of online tools for DER system integration and modeling
  - Coordination with IDER sourcing mechanisms
  - 2017 Decisions D2 – D3 (Please see handout for Decision descriptions)

- 2:30 – 3:25** Session 4 – Coordination with other proceedings and agencies
- Interagency coordination workshops (CEC, CAISO)
  - Joint workshops with proceedings other than IDER

- 3:30 – 4:00** Wrap up
- Key points that have emerged from this workshop

**4:00** Adjourn





# Workshop Purpose

- Evaluate a Staff Proposal for a procedural outline of the Distribution Resources Plan proceeding
- Discuss the scope and schedule of the DRP proceeding
- Determine interactions with the IDER proceeding to clarify scopes of the two proceedings and how to coordinate them effectively





## Background of this Workshop

- In the Pre-Hearing Conference on September 30, 2015, ALJ Gamson proposed that Energy Division staff develop a straw proposal for a procedural roadmap
- ALJ Gamson also proposed that a workshop be conducted to allow parties, staff and potentially decision-makers to discuss the roadmap at length
- Judge Gamson suggested that this effort could result in a more detailed and clear Scoping Memo, incorporating input from all parties
- Judge Gamson also suggested that it would be an important objective to coordinate with the issuance of the IDER revised Scoping Memo.
- The Scoping Memo would “lay out a well-thought-out schedule, logical phasing for the proceeding and a clear home for each issue that should be considered and resolved in the proceeding.”





# Questions for this Workshop

- What is missing from this roadmap?
- Is it the correct procedural order?
- Is the scope too narrow or too broad?







# Overview

- “Phase 1” – Early Actions: Q4 2015 - Q2 2016
- “Phase 2” – Demonstration Project Design: Q2-Q4 2016
- “Phase 3” – Demonstration Project Implementation: 2017
- “Phase 4” – Demonstration Project Testing/Operation and Ongoing Activities (if warranted and authorized): Post 2017







“Phase 1” Q4 2015-Q2 2016

# EARLY ACTIONS





Key

W- workshop

R - ruling

JW - Joint Workshop

D - decision

## Proposed DRP Work Plan 2015-2016

“Phase 1”

	2015						2016								
	Q4			Q1			Q2			Q3			Q4		
DRP	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
ICA		W1		R1	Execute approved ICA update(All IOU)			Use ICA, LNBA and learnings from Demo A and B to conduct design activities for Demo C, D and E - Workshops to discuss IOU design process (WDEMO)							
LNBA				JW2	R2	Execute LNBA									
demo A		W1		R1	Conduct Dem A										
demo B				JW2	R2	Conduct Dem B									
demo C															
demo D						W5 W6	R3								
Demo E															
Growth Scenarios				W3		R4									
Process Alignment				W4											
Use of DRP in GRC										W7					
Data Access				W2	Development of online tools - pilots										
Overall DRP		JW1	Scoping Memo							W8	Comment Period	PD	Comment Period	D1	
IDER			Scoping Memo?			Decision?	JW3			JW4			JW5		
C-E Ph 1		Improve existing cost-effectiveness framework													
C-E Ph 2		Coordinate with DRP (e.g., incorporate LNBA into cost-effectiveness framework)													
C-E Ph 3		Improved C-E models and methods to more accurately reflect CA policies and goals													
C-E Ph 4		All Source "valuation" framework (akin to supply-side)													
Evaluate All Sourcing Options			Evaluate							Develop New					
SIWG								JW6	JW8						
Interconnection								JW7							
Storage										JW10					
ZNE										JW11					
EV									JW9						





# “Phase 1” Workshops

## Q4 2015 and Q1 2016

Workshop number	Description	Outcome
W1	ICA result and methodology review, direction, gaps, application in Demo A	Consensus on ICA methodology and Demo A extent and focus
W2	Data Access- Review of online maps, other tools	Consensus on direction for online tools and maps
W3	Review of Growth Scenarios, receive stakeholder input on needs and potential modifications	Receive stakeholder input on potential modifications to Growth Scenarios and methodologies
W4	Process alignment LTPP, TPP, IEPR, DRP, IDER	Definition of input and output data required from other proceedings from DRP
W5	Discussion and evaluation of Demo C, D and E proposals	Vetting of C, D and E proposals and alternatives
W6		

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### Joint Workshops

Workshop number	Joint Proceedings	Description	Outcome
JW1	IDER	Evaluate the DRP roadmap to provide party input for the Scoping Memo.	Inform Scoping Memo.
JW2	IDER	Review of LNBA methodology, alternatives, potential modification, application in Demo B	Consensus on LNBA methodology and Demo B extent and focus
JW3	IDER	Portfolio Optimization - Use of LNBA and ICA results to develop locationally specific resource portfolios	Optimization methodology including valuation assessment for portfolios





# Rulings – Q1 2016

Rulings	Description
R1	<ol style="list-style-type: none"> <li>1. Direct IOUs to apply ICA methodology as modified per workshop report</li> <li>2. Direct IOUs to execute Demo Project A as modified per workshop report</li> <li>3. Direct IOUs to execute Data Access plan per straw proposal and modified per workshop report</li> </ol>
R2	<ol style="list-style-type: none"> <li>1. Direct IOUs to apply LNBA methodology as modified per workshop report</li> <li>2. Direct IOUs to execute Demo Project B as modified per workshop report</li> <li>3. Direct IOUs to execute Data Access plan for LNBA/ICA per straw proposal and modified per workshop report</li> </ol>
R3	Direct IOUs to begin design activities for Demo Projects C,D and E using a group process with findings from ICA and LNBA
R4	Approval of Growth Scenario methodologies and need and frequency of updates. Applications to other proceedings





“Phase 2”

# DEMONSTRATION PROJECT DESIGN





Key

W- workshop

R - ruling

JW - Joint Workshop

D - decision

## Proposed DRP Work Plan 2015-2016

“Phase 2”

	2015						2016								
	Q4			Q1			Q2			Q3			Q4		
DRP	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
ICA		W1		R1	Execute approved ICA update(All IOU)			Use ICA, LNBA and learnings from Demo A and B to conduct design activities for Demo C, D and E Workshops to discuss IOU design process (WDEMO) Conduct Demo A and B							
LNBA				JW2	R2	Execute LNBA									
demo A		W1		R1	Conduct Dem A										
demo B				JW2	R2	Conduct Dem B									
demo C															
demo D						W5		R3							
Demo E						W6									
Growth Scenarios					W3	R4									
Process Alignment					W4										
Use of DRP in GRC										W7					
Data Access				W2	Development of online tools - pilots										
Overall DRP		JW1	Scoping Memo								W8	Comment Period	PD	Comment Period	D1
IDER			Scoping Memo?			Decision?	JW3				JW4			JW5	
C-E Ph 1			Improve existing cost-effectiveness framework												
C-E Ph 2			Coordinate with DRP (e.g., incorporate LNBA into cost-effectiveness framework)												
C-E Ph 3			Improved C-E models and methods to more accurately reflect CA policies and goals												
C-E Ph 4			All Source "valuation" framework (akin to supply-side)												
Evaluate All Sourcing Options			Evaluate								Develop New				
SIWG								JW6	JW8						
Interconnection								JW7							
Storage										JW10					
ZNE										JW11					
EV									JW9						





# “Phase 2” Workshops

## Joint Workshops

Workshop Number	Description	Outcome
Workshop DEMO	Presentations from IOUs on learnings from Demo A and Demo B  Status reports from DPDWG on Demo Project Design Activities	Provide information to IDER on learnings related to portfolio development.  Provide record on initial expenditures for Demo C, D and E design activities.
W7	Review of Distribution Planning Process, DRP proposals for incorporating DER into GRC Phase 1	Inform development of Decision 1
W8	Evaluate results of Demo A and Demo B pilots and consider necessary modifications  Evaluate update of ICA, LNBA and DRP	Obtain inputs on finalizing ICA and LNBA methodology and updates. Inform Decision 1

Number	Joint Proceeding	Description	Outcome
JW4	IDER	Use of LNBA results for development of use in sourcing mechanisms	Framework for incorporation of locational avoided cost in sourcing mechanisms.  Definition of grid service pricing mechanism
JW5	IDER	Evaluation of proposed sourcing mechanisms and applicability to the C, D and E demonstration projects.	Pilot for sourcing of DER used in demo projects







# “Phase 2” Decision

Decision	Description
D1	<ol style="list-style-type: none"> <li>1. Should the Commission authorize IOUs to execute demonstration and deployment project design phase C, D and E as modified by workshop reports 3, 4 and for demo project design workshops?</li> <li>2. Should the Commission authorize funding for design phase activities?</li> <li>3. Should the Commission order IOUs to formally characterize portfolio optimization techniques such that they can be used in IDER proceeding?</li> <li>4. Should the Commission order IOUs to file 2016-17 DRPs based on modifications to methodologies and other record?</li> </ol>





“Phase 3”

# DEMONSTRATION PROJECT IMPLEMENTATION - 2017





# “Phase 3” - 2017

## Key

W- workshop

R - ruling

JW - Joint  
Workshop

D - decision

	2017											
	Q1			Q2			Q3			Q4		
DRP	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17
ICA	W9	R5										
LNBA												
demo A												
demo B												
demo C	Demo Project C,D E Design Phase Status report webinars											
demo D												
demo E												
Data Access												
Overall DRP	W10	Comment Period	PD	Comment Period	D2			W11	Comment Period	PD	Comment Period	D3
IDER		Decision?										





# Phase 3 Workshops

Workshop number	Description	Outcome
W9	Consideration of the cost requirements for the Demo Project Design Phase including new tools and IT technologies	Determine cost requirements for new tools
W10-11	As necessary to build the record for DRP decisions related to pilot projects and further development of the DRP.	





# “Phase 3” Decisions

Decisions	Description
D2	<ol style="list-style-type: none"> <li>1. Should the Commission approve Final configurations of C, D and E demonstration projects?</li> <li>2. Should the Commission require regular public status reports on Demonstration Project activities?</li> <li>3. Should the Commission authorize funding for procurement of utility assets including online tool development for DER support?</li> <li>4. Should the Commission make a determination of “other DRP infrastructure spending request” evaluations? One type of evaluation process could provide a means for determining reasonableness of capital expenditure requests that involve specific capabilities related to DER support that are an outcome of the DRP process. Another new process may be required for determining whether utility requests for distribution system capital project spending in their GRCs adequately consider DER.</li> </ol>
D3	<ol style="list-style-type: none"> <li>1. Potential close of proceeding</li> <li>2. Potential determination of final ICA, LNBA, Growth Scenarios</li> <li>3. Potential determination of GRC expenditure review procedures to ensure consideration of DER alternatives and necessary support infrastructure for DER</li> </ol>





“Phase 4” – 2018 and Beyond?

# **DEMONSTRATION PROJECT TESTING AND OPERATION AND ONGOING ACTIVITIES**





# Example IOU Demonstration Project Schedule (SCE)

Figure II-12  
High-Level Implementation Schedule<sup>134</sup>

Demonstration and Deployment Projects Implementation Schedule																						
Demo	Demonstration Name*	2015				2016				2017				2018				2019				
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
A	Dynamic Integrated Capacity Analysis																					
B	Optimal Locational Benefit Analysis Methodology																					
C	DER Locational Benefits																					
D	DER Distribution Operations at High Penetrations of DERs																					
E	DER Dispatch to Meet Reliability Needs																					

\*As noted within the Final Guidance







# COORDINATION WITH OTHER PROCEEDINGS





Key									
W- workshop									
R - ruling									
JW - Joint Workshop									
D - decision									
	2016								
	Q2			Q3			Q4		
DRP	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16
ICA	Execute approved	<div>• Conduct Demo A and B</div> <div>Use ICA, LNBA and learnings from Demo A and B to conduct design activities for Demo C, D and E</div> <div>• Workshops to discuss ICU design process (WIDEMO)</div>							
LNBA	Execute LNB								
demo A	Conduct Dem								
demo B	Conduct Dem								
demo C	R3								
demo D									
Demo E									
Overall DRP					W8	Comment Period	PD	Comment Period	D1
IDER	JW3				JW4			JW5	
SIWG		JW6	JW8						
Interconnection		JW7							
Storage				JW10					
ZNE				JW11					
EV			JW9						
PG&E GRC TY 2017	2014-2016								
SCE GRC TY 2018									
SDG&E GRC TY 2019									





# Joint Workshops – Other

JW6 - JW7	Interconnection/Smart Inverter Working Group	<p>Use of smart inverter functions and LBNA to inform placement and use of smart inverters in the Demo C, D and E projects</p> <p>Use of ICA to provide interconnection streamlining</p>	
JW8	Smart Inverter Working Group	Development of dispatch mechanism for controlling services provided by smart inverters	Adoption of protocol used for dispatching and controlling smart inverters
JW9	EV	Integration of EV into optimal portfolio	Methods for building a portfolio of DER that includes EVs
JW10	Storage	Integration of Storage into optimal portfolio	Methods for building a portfolio of DER that includes storage
JW11	Zero Net Energy	Integration of ZNE buildings into optimal portfolio	Methods for building an optimal portfolio with integrated ZNE





## Wrap Up

- What is missing from this roadmap?
- Is it the correct procedural order?
- Is the scope too narrow or too broad?





**Thank you!**  
**For Additional Information:**  
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